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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/673,354

09/30/2003

Akira Yamanoue

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05/14/2004

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EXAMINER

TOLEDO, FERNANDO L

ART UNIT

PAPER NUMBER

2823

DATE MAILED: 05/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/673,354

Applicant(s)

YAMANOUE ET AL.

Examiner

Fernando L. Toledo

Art Unit

2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 – 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Eklund (U. S. patent 5,506,158 A).
4. In re claim 1, Eklund discloses, in the U. S. patent 5,506,158 A; figures 1 – 2G and related text, forming a semiconductor film 29 over a semiconductor substrate 12; implanting a dopant into a prescribed region of the semiconductor film (Figure 2D); and patterning the semiconductor film to form a resistance element of the semiconductor film with dopant implanted and a gate electrode of the semiconductor film with the dopant not implanted (Figure 2F).
5. In re claim 2, Eklund discloses, further comprising, after the step of forming a gate electrode, the step of implanting a dopant into the gate electrode (Figure 2G).

6. In re claim 3, Eklund discloses in the step of implanting the dopant into the gate electrode, the dopant is implanted into the semiconductor substrate on both sides of the gate electrode to form a dopant diffused region 52 or 54.
7. In re claims 4 and 5, Eklund discloses, in the step of forming the gate electrode, a first gate electrode and a second gate electrode are formed, and in the step of implanting the dopant into the gate electrode, a first conduction type dopant is implanted into the first gate electrode, and a second conduction type is implanted into the second gate electrode (Figure 2G).
8. In re claims 6 – 8, Eklund discloses, in the step of implanting dopant into the semiconductor film, the dopant is implanted into several regions of the prescribed region in concentrations different from each other to form several resistance elements of resistance values different from each other (Figure 2E).
9. In re claims 9 – 11, Eklund discloses, forming an insulation film 28 for covering the gate electrode and the resistance element; and etching the insulation film to leave the insulation film on the resistance element and form a sidewall insulation film on the sidewall of the gate electrode (Figure 2G).
10. In re claims 12 and 13, Eklund discloses, further comprising, after the step of forming the sidewall insulation film, the step of forming a metal film on the semiconductor substrate with the gate electrode formed on, performing thermal processing to silicide the metal film to thereby form a silicide film 56 on the gate electrode and the semiconductor substrate on both sides of the gate electrode (Figure 1).
11. In re claims 14 – 16, Eklund teaches wherein in the step of implanting the dopant into the semiconductor film, the dopant is implanted at a $1 \times 10^{15} \text{ cm}^{-2}$ dose or above (column 4, Lines 1 – 3).

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12. In re claims 17 – 19, Eklund discloses, in the step of forming the semiconductor film, the semiconductor film is formed of polysilicon or amorphous silicon (Column 3, Line 56).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fernando L. Toledo whose telephone number is 571-272-1867. The examiner can normally be reached on Mon-Thu 7am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 571-272-1855. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



FToledo

11 May 2004



Olik Chaudhuri
Supervisory Primary Examiner
Art Unit 2823